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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,950	12/01/2003	Andrew D. Wilson	MS303183.2	3606
27195 7590 11/29/2007 AMIN. TUROCY & CALVIN, LLP 24TH FLOOR, NATIONAL CITY CENTER 1900 EAST NINTH STREET CLEVELAND, OH 44114			EXAMINER NUNEZ, JORDANY	
			ART UNIT 2179	PAPER NUMBER
			NOTIFICATION DATE 11/29/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/724,950

Applicant(s)

WILSON ET AL.

Examiner

Jordany Núñez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09/20/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1, 5, 7, 8, 10-13, 16, 18, 19, 24, 25, 27, 28 and 30-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 7, 8, 10-13, 16, 18, 19, 24, 25, 27, 28, 30-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

The previous restriction is withdrawn given Applicant's amendment introducing linking subject matter between the species.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 10-13, 16, 18, 19, 24, 25, 30-33, 39-52 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanevsky et al. (US6421453, hereinafter Kanevsky).

As to claim 1, Kanevsky shows:

A system that facilitates a user interface, comprising:

a user command to control a computer system received from a gesture (column 5, lines 10-16);

and a 3-D imaging component that captures the gesture in the form of a gesture image,

processes the gesture image, and interprets the gesture image to execute the user command for control of the computer system (column 32, lines 51-56), and the imaging component permits different users to select different commands to associate with the received gesture such that the received gesture executes a user command based on user profile (column 7, lines 55-66).

As to claim 5, Kanevsky shows:

The system of claim 1, further comprising a voice communication system that receive voice signals that are used singly or in combination with the gesture to control the computer system (column 14, lines 17-24).

As to claim 10, Kanevsky shows:

A computer readable medium having stored thereon computer executable instructions for carrying out the system of claim 1 (abstract).

As to claim 11, Kanevsky shows:

A system that facilitates a user interface in a medical environment, comprising:

a user command to control an object (e.g., access to a building, or door) of a computer system received as a gesture (column 5, lines 10-16; column 8, lines 24-26);

a 3-D imaging component that captures the gesture in the form of a gesture image, processes the gesture image, and interprets the gesture image to execute the user command for control of the computer system (column 32, lines 51-56), the imaging component permits user selection of association of gestures with user commands wherein different users employ different gestures for execution of a given command, the association being determined during execution by user profile (column 7, lines 55-66); and

a wireless control device the orientation (e.g., the display) of which is used in combination with the gesture to control the computer system (column 31, lines 59-65).

As to claim 12, Kanevsky shows:

The system of claim 11, the wireless control device includes a sensor that outputs at least one of a single axis signal and tri-axial signal (column 31, lines 59-65) (means of indicating association is interpreted as a signal).

As to claim 13, Kanevsky shows:

The system of claim 11, the object comprises at least one of hardware and software of the control system (column 5, lines 10-16; column 8, lines 24-26).

As to claim 16, Kanevsky shows:

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The system of claim 11, the gesture includes the use of both hands of an operator to cause execution of the user command (column 22, lines 9-16).

As to claim 18, Kanevsky shows:

The system of claim 11, the wireless control device is used to determine when line of sight of an operator interacts with computer system for control of the object (column 7, lines 19-26).

As to claim 19, Kanevsky shows:

A method of controlling a computer system using a gesture, comprising:  
capturing one aspect of the gesture in the form of a 3-D gesture image (column 32, lines 51-56);  
processing the 3-D gesture image to determine an associated user command preselected by a user to associate with the received gesture (column 7, lines 55-66); and  
and executing the user command to effect manipulation of an object of the computer system based on the selection obtained from profile of the user (column 5, lines 10-16).

As to claim 24, Kanevsky shows:

The method of claim 19, further comprising controlling the object, which is 3-D image data, by presenting one or more gestures that facilitate (Examiner reads "facilitate" as "not prevent") at least one of rotation about an axis that corresponds to smooth rotation of a user's hand, rotation about a vertex of the 3-D image data, and stepped rotation (column 5, lines 10-16) (Kanevsky teaches performing various commands; since "rotation of data presented [...]" is not taught as being prevented by Kanevsky, it is inherently taught as being "facilitated").

As to claim 25, Kanevsky shows:

The method of claim 19, further comprising controlling the object, which object is associated with at least one of lighting, display intensity, and volume control of an audio signal (column 7, lines 55-66;

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column 11, lines 30-41; column 6, lines 30-40) (speech biometrics, including speech volume, of a user is associated with controlling an object).

As to claim 30, Kanevsky shows:

A method of controlling a computer system in an operating room environment, comprising:  
calibrating the computer system according to a user profile of individualized gesture data by presenting associated gestures using at least one or more body motions (column 7, lines 48-59);  
mapping the gesture data to at least one user command that is executable by the computer system (column 5, lines 10-16);  
invoking the user profile according to a unique signal (column 7, lines 55-66);  
presenting the gestures to a 3-D imaging system for capture and processing (column 7, lines 55-66);  
interpreting 3-D renderings of the gestures to retrieve the associated user commands (column 8, lines 9-16);  
and executing the user commands to effect manipulation of an object of the computer system (column 8, lines 24-26).

As to claim 31, Kanevsky shows:

The method of claim 30, further comprising automatically including a second user profile of individualized gestures data with the user profile of individualized gesture data with when the associated second user is detected within the operating room environment (column 7, lines 55-66).

As to claim 32, Kanevsky shows:

The method of claim 30, further comprising automatically learning gesture characteristics of a user associated with the user profile, and updating the user profile with the learned gesture characteristics (column 7, lines 63-67).

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As to claim 33, Kanevsky shows:

A computer-readable medium having computer-executable instructions for performing a method of controlling a computer using gestures, the method comprising:

receiving gesture calibration data in the form of 3-D images of the gestures (column 7, lines 48-59);

mapping the gesture calibration data to at least one user command that is executable by the computer system (column 5, lines 10-16);

associating the mapped gesture calibration data with a user profile of a user (column 7, lines 55-66);

invoking the user profile according to a unique signal received from the user (column 7, lines 55-66);

processing subsequent 3-D images of the gestures received via a camera system (column 5, lines 26-31);

interpreting the subsequent 3-D images of the gestures to retrieve the associated user commands (column 8, lines 9-16);

and executing the user commands to effect manipulation of a hardware or software object of the computer system (column 8, lines 24-26).

As to claim 39, Kanevsky shows:

The system of claim 1, the 3-D imaging component captures a gesture formed by using at least one hand (column 32, lines 51-56).

As to claim 40, Kanevsky shows:

The system of claim 1, the 3-D imaging component captures a gesture formed using a head movement (column 32, lines 51-56).

As to claim 41, Kanevsky shows:

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The system of claim 1, the 3-D imaging component initiates a confirmation request signal in response to receiving the gesture (column 15, lines 48-53).

As to claim 42, Kanevsky shows:

The system of claim 1, the 3-D imaging component detects gesture characteristics in the captured gesture, which gesture characteristics include at least one of hand movement, finger count, finger orientation, hand orientation, and hand rotation (column 32, lines 51-56).

As to claim 43, Kanevsky shows:

The system of claim 1, the 3-D imaging component continually monitors location of a given user bearing a tag via a triangulation system, and associates the location data with captured image data such that gestures from that location will be processed against associated user profile to properly execute the user command (column 7, lines 19-27) (e.g., the camera reads the identification information on a users card, and triangulates the information with behavioral passwords and other recognition means to arrive at a determination that a user is authorized or not).

As to claim 44, Kanevsky shows:

The system of claim 1, the 3-D imaging component controls windows in the computer system based on dwell time of the received gesture wherein dwell time is a time after having engaged the computer system, that the user holds their hand position stationary such that a system icon remains over a particular window (column 23, lines 3-7).

As to claim 45, Kanevsky shows:

The system of claim 11, the 3-D imaging component utilizes the captured gesture to facilitate (Examiner reads "facilitate" as "not prevent") rotation of data presented by the computer system about at least one of an axis and a vertex of the data (column 5, lines 10-16) (Kanevsky teaches performing



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various commands; since "rotation of data presented [...]" is not taught as being prevented by Kanevsky, it is inherently taught as being "facilitated").

As to claim 46, Kanevsky shows:

The system of claim 11, the 3-D imaging component utilizes the captured gesture to manipulate image data presented by the computer system, which manipulation of data includes at least one axis translation, zoom control, and paging through multiple images of the image data (e.g., frames) (column 23, lines 3-7).

As to claim 47, Kanevsky shows:

The system of claim 11, the 3-D imaging component associates the captured gesture with a unique user (column 11, line 65 to column 12, line 4).

As to claim 48, Kanevsky shows:

The system of claim 11, the 3-D imaging component further comprising processing subsequent gesture images to interpret the gesture for manipulation of the object (column 1, line 63 to column 2, line 5).

As to claim 49, Kanevsky shows:

The system of claim 11, the 3-D imaging component further comprising presenting the gesture as at least one of a hand manipulation, a gaze signal, or a vocalization, to control the object (column 32, lines 51-56; column 10, lines 63-67).

As to claim 50, Kanevsky shows:

The system of claim 11, the 3-D imaging component automatically changes user profiles when a user programmed to interact therewith has been replaced by a second user (column 30, lines 50-59).

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As to claim 51, Kanevsky shows:

the 3-D imaging component utilizing the captured gesture to facilitate (e.g., not prevent) rotation of data presented by the computer system about at least one of an axis and a vertex of the data, and the controlled object is associated with video data and the 3D imaging component executes the user command to at least one of start, stop, freeze or loop the video data (column 5, lines 10-16) (Kanevsky teaches performing various commands; since "rotation of data presented [...]" is not taught as being prevented by Kanevsky, it is inherently taught as being "facilitated").

As to claim 52, Kanevsky shows:

The method of claim 19, the associated user command is characterized according to finger usage and hand pose (column 32, lines 51-56).

References to specific columns, figures or lines should not be limiting in any way. The entire reference provides disclosure related to the claimed invention.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

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examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 27, 28, 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Oohara et al (US5801704, hereinafter Oohara).

As to claims 27, 28, 34:

Kanevsky shows a method and computer-readable medium substantially as claimed, as specified above.

Kanevsky fails to specifically show: further comprising identifying the gesture with a user via a radio frequency tag; the tag is attached to a glove worn by the user; further comprising presenting and manipulating 3-D images of system data in response to presenting the gestures.

In the same field of invention, Oohara teaches: further comprising identifying the gesture with a user via a radio frequency tag (e.g., position transmitters) (column 4, lines 19-26); the tag is attached to a glove worn by the user (column 4, lines 19-26); further comprising presenting and manipulating 3-D images of system data in response to presenting the gestures (figure 3).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky and Oohara at the time that the invention was made, to have combined the further comprising identifying the gesture with a user via a radio frequency tag; the tag is attached to a glove worn by the user; further comprising presenting and manipulating 3-D images of system data in response to presenting the gestures of Oohara with the method and computer-readable medium as taught by Kanevsky.

One would have been motivated to make such combination because a way to enable an image system to accurately process control operation processing of a cursor would have been obtained and desired, as expressly taught by Oohara (column 1, lines 64-67).

Claims 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Hildreth et al (US7227526, hereinafter Hildreth).

As to claim 35, Kanevsky shows:

Kanevsky shows a method substantially as claimed, as specified above.

Kanevsky further shows: processing one or more of the gestures presented within the volume of space to effect control of the computer (column 5, lines 10-16), and a database storing a user's medical history information (column 12, lines 55-61).

Kanevsky fails to specifically show: further comprising defining a volume of space over a patient on an operating table, and processing one or more of the gestures presented within the volume of space to effect control of the computer before, during, or after an operating procedure on the patient.

In the same field of invention, Hildreth teaches: a video-based image control system. Hildreth further teaches: defining a volume of space over a user (e.g., user's head) (column 14, lines 30-37).

It was well known at the time of the instant invention that a user could be a patient, and that a computer could be used before, during, or after an operating procedure on the patient.

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky and Hildreth at the time that the invention was made, to have combined the defining a volume of space over a user of Hildreth and the well-known a user being a patient, and a computer being used before, during, or after an operating procedure on the patient with the method as taught by Kanevsky.

One would have been motivated to make such combination because a way to enable access to a computer when impractical to use a computer mouse or track ball would have been obtained and desired, as expressly taught by Hildreth (column 1, lines 34-38).

As to claims 36-38:

Kanevsky shows a system for controlling a computer during a medical procedure using one or more hand gestures of a person, comprising:

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means for capturing a gesture presented by a person (column 5, lines 10-16), in the form of a 3-D image (column 5, lines 26-31);

means for processing the 3-D image of the gesture to allow recognition thereof (column 5, lines 10-16);

means for returning a computer command associated with the recognized gesture (column 5, lines 10-16);

and means for executing the computer command to facilitate (e.g., not prevent) manipulation of medical information presented on a display to the medical person (column 5, lines 10-16), further comprising means for confirming use of the computer command with the recognized gesture (column 8, lines 6-16), the gesture includes means for generating an audio signal in the form of at least one of vocalizations and clicking (column 7, lines 55-66; column 11, lines 30-41; column 6, lines 30-40) (speech biometrics, including speech volume, of a user is associated with controlling an object).

Kanevsky fails to specifically show: said person being a medical person.

It would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky at the time that the invention was made, to have included said person being a medical person with the system as taught by Kanevsky.

One would have been motivated to make such combination because a way to enable access to a computer when impractical to use a computer mouse or track ball would have been obtained and desired, as expressly taught by Hildreth (column 1, lines 34-38).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Kazama et al. (US6111580, hereinafter Kazama).

As to claim 7:

Kanevsky shows a system substantially as claimed, as specified above.

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Kanevsky fails to specifically show: determining when an operator is looking in the direction of the computer system.

In the same field of invention enabling a user to operate equipment using gesture input (column 1, lines 5-10), Kazama teaches: an apparatus and method for controlling an electronic device. Kazama further teaches: controlling an apparatus according to the user's gaze of sight and gesture directed to the center point of a display (column 3, lines 60-67).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky and Kazama at the time that the invention was made, to have combined the controlling an apparatus according to the user's gaze of sight and gesture directed to the center point of a display of Kazama with the system as taught by Kanevsky.

One would have been motivated to make such combination because a way to activate equipment simply by a simple action of a user would have been obtained and desired, as expressly taught by Kazama (column 2, lines 10-13).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Dempksi et al (US7007236, hereinafter Dempski).

As to claim 8:

Kanevsky shows a system substantially as claimed, as specified above.

Kanevsky fails to specifically show: the 3-D imaging component is distributed across the computer system and at least one other computer system.

In the same field of invention, Dempski teaches: a lab window collaboration system. Dempski further teaches: a 3-D imaging system that is distributed (figure 1).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky and Dempski at the time that the invention was made, to have combined the 3-D imaging system that is distributed of Dempski with the system as taught by Kanevsky.

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One would have been motivated to make such combination because a way to enable merging of video conferencing and three-dimensional computer applications would have been obtained and desired, as expressly taught by Dempksi (column 1, lines 46-50).

References to specific columns, figures or lines should not be limiting in any way. The entire reference provides disclosure related to the claimed invention.

### ***Response to Arguments***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, Applicant's arguments with respect to the claims above have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Oh [U.S. 5616078]

Maggioni [U.S. 5828779]

Platzker et al. [U.S. 5528263]

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordany Núñez whose telephone number is (571)272-2753. The examiner can normally be reached on Monday Through Thursday 9am-7:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on (571)272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JN

11/26/2007



**WEILUN LO**  
**SUPERVISORY PATENT EXAMINER**